PP-240

Presidential Permit Application

for the
Moore Power Plant
Electric Interconnection Project

March 2001

Submitted by:

Enron Canada Corporation
3500 Canterra Tower
400-3rd Avenue S.W.
Calgary, Alberta
T2P4H2

ENRON CANADA CORP.
APPLICATION FOR PRESIDENTIAL PERMIT

1.0 INTRODUCTION

Enron Canada Corp. (Enron), pursuant to Executive Order 10485, as amended by Executive Order 12038, hereby applies for authorization from the U.S. Department of Energy (DOE) for a Presidential Permit to construct, connect, and maintain a power line that would transmit electricity across the international boundary between Canada and the United States of America.

2.0 INFORMATION REGARDING THE APPLICANT

2.1 IDENTITY OF APPLICANT

The exact legal name of the applicant is Enron Canada Corp., an Alberta, Canada corporation.

2.2 COMMUNICATION

The name, title, address, and telephone number of the persons to whom correspondence in regard to this application should be addressed is as follows:

Eric Le Dain
Enron Canada Corp.
3500 Canterra Tower
400 – 3rd Avenue S.W.
Calgary, Alberta T2P 4H2
(403) 974-6741

Debbie Chance
Enron Corp.
1400 Smith Street
Mail Stop EB2960E
Houston, TX 77002
(713) 853-5169

2.3 FOREIGN OWNERSHIP DISCLOSURE

Enron: (1) is not owned in whole or in part by a foreign government; (2) is not directly or indirectly assisted by a foreign government or instrumentality thereof; and (3) does not have any agreement pertaining to such ownership by or assistance from any foreign government or instrumentality thereof.

2.4 EXISTING CONTRACTS WITH FOREIGN GOVERNMENTS

Enron currently has agreements with the following foreign governments or foreign private concerns relating to the purchase, sale or delivery of electric energy:

1. British Columbia Hydro and Power Authority – transmission agreement

2. British Columbia Power Exchange Corporation – power purchase enabling agreement

3. The Power Pool Council (Alberta) – power pool participation agreement and physical power purchase and sale agreement

4. As a power marketer in Canada, Enron Canada Corp. has various contracts in place with numerous counterparties foreign to the United States (primarily all of which are Canadian entities), including generators, marketers and end-users, regarding both (i) the purchase, sale and delivery of physical electric energy from and to such counterparties and (ii) financially settled swaps or derivatives where electric energy is the underlying commodity.

2.5 SHOWING OF LEGAL CAPACITY

As shown in the attached signed Statement and Opinion of Counsel, the construction, connection, operation, and maintenance of the proposed generating facility and transmission line is within the corporate power of Enron, and Enron has complied with all or will comply with all pertinent Federal and state laws.

3.0 THE PROPOSED PROJECT

Enron proposes to construct a two circuit 230 kV 3 phase power line from the Moore Power Plant to be constructed in southern Ontario, Canada to the St. Clair Power Plant, owned and operated by The Detroit Edison Company (Detroit Edison), in St. Clair County, Michigan. The power line will be less than 1.5 miles in length, will be located entirely underground, and will have a frequency of 60 Hz. The proposed in-service date for the project is April 2002.

The proposed route for the power line and site for the facility are shown in Figure 1.

The proposed power plant would be either a 4 unit, 450 megawatt (MW) or a 3 unit 358 MW simple cycle gas turbine facility. The Moore Power Plant is being built to participate in the newly deregulating Ontario electricity market and will be connected to Hydro One's Lambton Substation. The cross-border power line proposed by Enron is a radial line connecting the Moore Power Plant to Detroit Edison's system to give the plant flexibility by providing an additional outlet for the power to U.S. markets.

The applicant, Enron, has completed preliminary negotiations with landowners regarding easements for the proposed power line. On the U.S. side, the line will cross only the property of Detroit Edison. On the Canadian side, the line will cross the property of Terra International, Inc. Neither company is opposed to granting an easement.

3.1 TECHNICAL DETAILS REGARDING THE POWER LINE

The endpoints of the power line will be the Moore Power Plant and a new transformer at Detroit Edison's existing 120 kV and/or 345 kV switchyard (currently under review by Detroit Edison) at the St. Clair Power Plant. The interconnection between the Enron and Detroit Edison

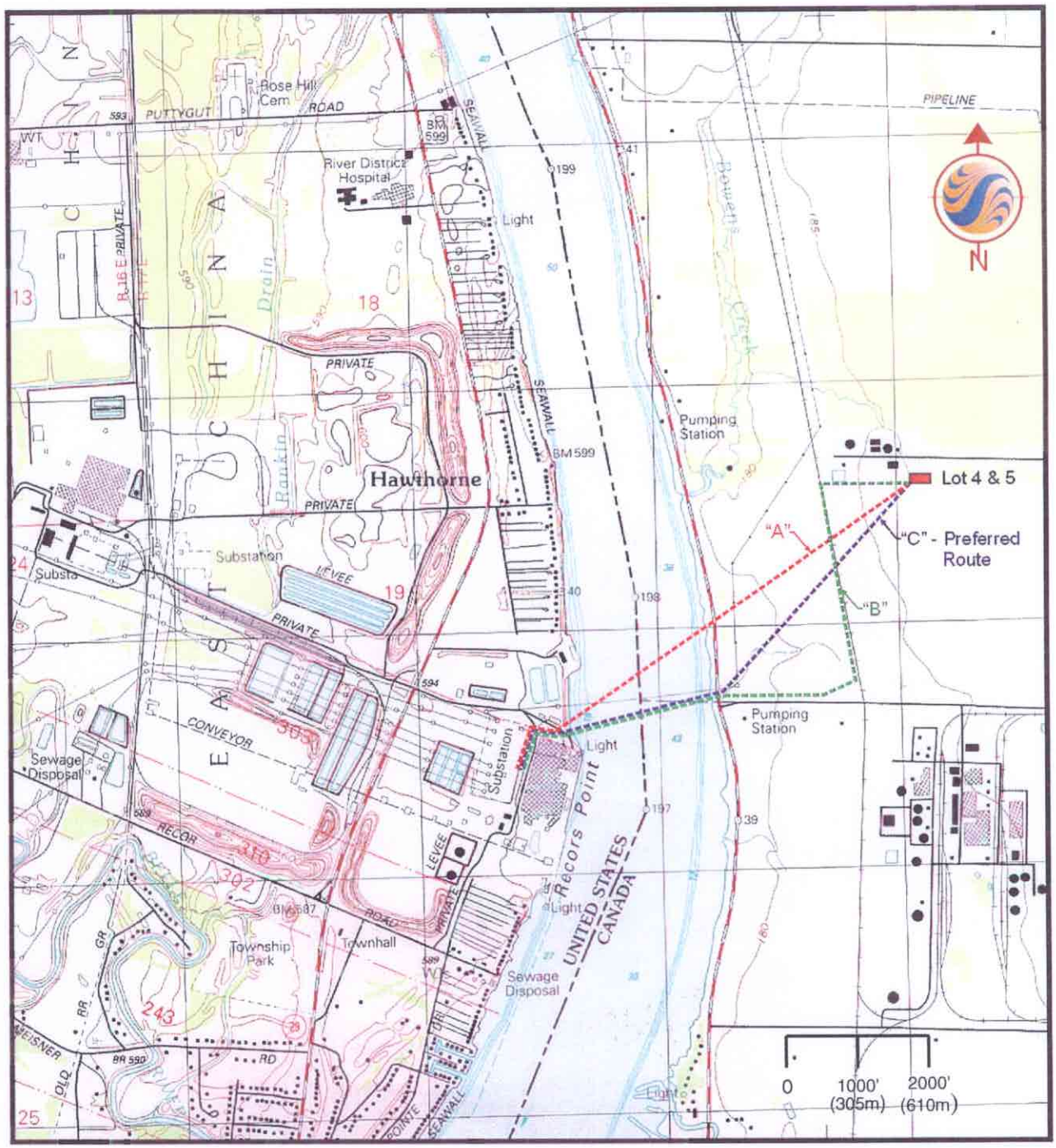

FIGURE 1.—***Locations of Proposed Project Facilities***

facilities will be entirely underground, including crossing under the St. Clair River. Permit No. 99-012-085-0, obtained from the U.S. Army Corps of Engineers, authorizes installation of the power line at a minimum of 15-feet beneath the St. Clair River using horizontal directional drilling technology. This permit specifies the construction methods to be followed and expires on December 31, 2003.

Trenching is the preferred method of underground installation on the upland portions of the project area. However, because of the extensive network of underground utility infrastructure present at the Detroit Edison plant, trenching may not be feasible on the U.S. side. In this case, horizontal directional drilling may be required to complete the installation to the switchyard.

The cable will be 1750 kcmil copper conductor cross-linked polyethylene (XLPE) insulated cable. This cable will contain no oils, fluids or any other environmentally sensitive materials. A cable capacity of at least 450 MW is required to meet peak demand. Two circuits, each consisting of three single phase cables, will be installed. With an assumed power factor of 0.8, each circuit will be designed with a capacity of approximately 320 MVA.

Each circuit will be contained in a single borehole. The borehole will be 28" to 32" inside diameter polyethylene casing containing four 8" polyethylene subducts. A single conductor will be pulled into each of three subducts. A spare, neutral conductor will be pulled into the fourth subduct.

Detroit Edison is currently preparing an analysis of the effects of the proposed interconnection on system reliability. The results of this study will be made available to DOE upon completion.

3.2 TECHNICAL DETAILS REGARDING THE POWER PLANT

The proposed plant would consist of either four or three natural gas powered generator units Options 1 and 2, respectively). Both Options 1 and 2 include two 83 MW ABB-11N gas turbine generator sets with inlet chilling/overspray wet compression. Option 1 also includes two additional water-injected ABB-11N2 turbines, each with a capacity of 130 MW. Option 2 would also include the addition of one new 170 MW GE 7FA turbine. All turbines included in both options will operate as simple cycle, complete with all required associated equipment, including gearbox, generator, breaker, controls, inlet and outlet silencers, stack, buildings, and 13.8 kV / 230 kV transformers. For the first year of operation, only the ABB-11N turbines will operate.

The plant will be located on a portion of Lot 4 in Lambton County in southwestern Ontario, near the international border where the 2,000 MW export line crosses from Ontario to Michigan. In addition to the gas powered generator units, a plant service building, a fire water pump house, an electrical substation facility, a gas meter station, and a new site access road would be constructed. The plant will be designed to operate during peak daytime periods to meet electrical demand and will not usually operate during the night.

The 83 MW ABB-11N gas turbine generators have previously operated at the Millbank Generating Station of New Brunswick Power Corporation, where they were installed in 1991 for operation during peak periods. At the Millbank site the turbines were fired on distillate fuel. Each unit has 500 actual operating hours and 5,000 equivalent hours. The turbines will be converted to natural gas fuel prior to operation at the Moore Power Plant. The facilities will also include an engine driven fire pump.

The generating station will produce a nominal maximum of either 450 MW or 358 MW of electric power during peak load periods, for Options 1 and 2, respectively. Under either option, operation of approximately 7,500 operating hours over 5 years, or 1,500 hours per year is proposed. The maximum output of the gas turbines is dependent on ambient temperature and pressure. For the seasonal conditions encountered at this site, the maximum capacity per generator ranges from 109.6 MW to 142.6 MW.

4.0 OPEN ACCESS TRANSMISSION REQUIREMENTS

The Moore Power Plant is being built to participate in the newly deregulating Ontario electricity market and will be connected to Hydro One's Lambton Substation. The cross-border power line proposed by Enron is a radial line connecting the Moore Power Plant to Detroit Edison's system to give the plant flexibility by providing an additional outlet for the power when U.S. market signals are appropriate. Recent legislation in Michigan recognizes the need for additional electric supply in Michigan. This need for additional supply was underlined by the recent blackout in the city of Detroit during the summer of 2000. No third party could use the power line unless it were receiving electricity directly from the Moore Power Plant (i.e., a customer of Enron) or were selling power to be consumed at the Moore Power Plant (i.e., a supplier to Enron). Accordingly, Enron requests a determination that open access obligations will not be imposed in connection with its Presidential Permit.

In the rulemaking issued in FE Docket No. 99-1, 64 FR 40586 (July 27, 1999) (the Open Access Rule), the DOE provided notice of its intention to require holders of Presidential Permits to provide non-discriminatory open access transmission services on cross-border transmission facilities in accordance with the principles articulated by the Federal Energy Regulatory Commission (FERC) in Order No. 888.[1] In the Open Access Rule, the DOE amended most existing Presidential Permits and export authorizations to reflect its policy that cross-border trade in electricity should be subject to the same principles of comparable open access and non-discrimination that apply to transmission in interstate commerce, and included the same requirements in most new Presidential Permits issued after the date of the Open Access Rule.

The DOE determined, however, that the open access requirement should not be added to the Presidential Permits for cross-border lines that are not connected to the U.S. domestic electric power system, and, therefore, are not appropriate for third party transactions. By analogy, the open access requirement should not apply to the power line, which is a radial line connecting the Moore Power Plant in Ontario, Canada to Detroit Edison's St. Clair Substation. Thus, power flowing towards the U.S. on the power line can be produced only at the Moore Power Plant and cannot be produced by or sold from any other source in Canada; and power flowing from the U.S. toward Canada on the power line can be consumed only at the Moore Power Plant, and cannot be delivered or sold to any other entity in Canada.

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1 Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, Order No. 888, 61 FR 21540 (1996), FERC Stats. & Regs. ¶ 31036 (1996); order on reh'g, Order No. 888-A, 62 FR 12274 (1997), FERC Stats. & Regs. ¶ 31048 (1997); order on reh'g, Order No. 888-B, 81 FERC ¶ 61248 (1997); order on reh'g, Order No. 888-C, 82 FERC ¶ 61046 (1998) ("Order No. 888"). The FERC imposed open access transmission obligations on public utilities under the *Federal Power Act* (FPA) which operate in interstate commerce. The DOE regulates transmission access over the U.S. portion of international transmission lines pursuant to Section 202(e) of the FPA and the Executive Orders authorizing the issuance of Presidential Permits.

Moreover, if the Moore Power Plant were located within the U.S., waiver of open access requirements would be appropriate under Order No. 888. The FERC's policy has been to waive the requirements of Order No. 888 for U.S. public utilities which own, operate, or control transmission facilities that are discrete and very limited and do not comprise an "integrated transmission system."[2] Companies whose only transmission facilities are interconnection facilities between a generating facility and the grid, such as the power line, are both discrete and do not comprise an "integrated transmission system." E.g., *Illinois Power Company, AmerGen Energy Company, L.L.C.*, 89 FERC ¶ 61233 (1999).

Indeed, companies whose only transmission facilities are interconnection facilities necessary to connect a generating facility with the grid generally do not even seek a waiver of Order No. 888. The open access requirements were intended to enable third parties to use transmission facilities for their own power transactions, not to force a transmission facility owner to buy electricity from or sell electricity to a third party. Although interconnection facilities are classified as "transmission" by the FERC, no third party could use a radial interconnection unless it were either buying power from the generating facility as a customer or selling power to the generating facility for station service. Accordingly, the application of the open access requirement is not appropriate or in the public interest.

5.0 INFORMATION REGARDING THE ENVIRONMENT

The DOE will prepare an Environmental Assessment (EA) in accordance with the *National Environmental Policy Act* (NEPA). The EA will analyze the impacts of constructing and operating the proposed power plant and transmission line. Impacts for the proposed route as well as reasonable alternatives will be addressed. A brief overview of the affected environment for the project area is given below.

5.1 INFRASTRUCTURE

The proposed power plant would be powered by natural gas. The proposed site is located within 10 km of the Dawn natural gas hub. A high-pressure gas line with Union Gas meter station is within 100 meters of the site, with a direct connection to the high pressure TransCanada Pipeline. It is anticipated that municipal water would be adequate for all site requirements. A 24-inch municipal water line runs down the east side of the site. In addition, a pumping station and intake structure exits in the St. Clair River on the neighboring lot, should additional water be required (Development Plan, 1999).

5.2 GEOLOGY/SOILS/TOPOGRAPHY

The topography of the site is generally flat, with the ground surface sloping slightly to the west towards the St. Clair River. According to the Ontario Geological Survey Preliminary Map P. 2222, the Quaternary Geology of the Sarnia-Brights Grove Area maps, surficial deposits in the area of the property are classified as "black shale till, clayey silt to sandy silt till." Overburden deposits in the area are predominantly lightly overconsolidated glacial tills with a thickness of

2 Should such a public utility receive a request for transmission service, the utility must file a *pro forma* tariff within 60 days of the date of the request and comply with any additional requirements that are effective on the date of the request. Black Creek Hydro, et al., 77 FERC ¶ 61232 (1996).

approximately 45 meters, based on nearby water well records. Subcropping bedrock is mapped as shale, sandstone, and siltstone of the Devonian Port Lambton Group of Formations.

The topography at the Detroit Edison site is also generally flat, with the ground surface sloping slightly to the east towards the St. Clair River. The soils are comprised of predominately silty clay, and some lenses of sand and gravel. Depth to bedrock in the project area is approximately 40 to 50 meters.

5.3 WATER RESOURCES

The only waterbody in the study area is the St. Clair River. This river flows in a southerly direction and forms the international border between Michigan and Ontario. The St. Clair River is an important navigable waterway connecting Lake Huron and Lake St. Clair. The river has relatively constant flow, averaging approximately 5,180 m^3/s (ESG 1998).

The highly industrialized nature of the study area contributes to the generally poor water quality in the St. Clair River. Studies on the Ontario side of the river show a number of contaminants that exceed Canadian guidelines, Great Lakes Water Quality Agreement Objectives and/or Provincial Water Quality Objectives, including fecal coliform bacteria, cadmium, copper, iron, zinc, hexachlorbutadiene, hexachlorobenzene, and octachlorostyrene. Contaminants that exceeded Michigan Water Quality Standards include chloride, cadmium, copper, lead, mercury, zinc, dieldrin, total PCBs, hexachlorobenzene, tetrachloroethylene, and carbon tetrachloride (Geomatics 1997).

Groundwater levels are generally deep, located in the bedrock formations of the area.

5.4 FLOODPLAINS AND WETLANDS

The proposed project area does not include any designated wetlands. The 100-year floodplain of the St. Clair River is included entirely within the riverbank.

5.5 LAND USE

The proposed site for the power plant is located on a portion of Lot 4, Front Concession, Moore Township. The land is currently used for agricultural purposes, but is zoned M2.1 Industrial. This zoning is consistent with the proposed use. Adjacent land uses are mixed industrial and agricultural.

The transmission line would tie-in to the grid at the St. Clair Power Plant. The proposed location is within the borders of the Detroit Edison property and the proposed use is consistent with the surrounding area.

5.6 ECOLOGICAL RESOURCES

The primary wildlife inhabiting the St. Clair River corridor are waterfowl. The river lies along major migration routes for dabbling and diving ducks. In addition, the river supports a diverse fisheries system, with over 91 species of fish recorded within the river and throughout the river delta.

The proposed river crossing is not within any environmentally sensitive areas or areas of scientific interest.

The Ontario Ministry of Natural Resources has made no determinations about the special status of any fish species found in the St. Clair River. The State of Michigan lists one state-threatened species (river redhorse) and one species of special concern (pugnose shiner) as occurring in St. Clair County (Fitzgerald Henne and Associates, 1998).

5.7 CULTURAL RESOURCES

A phase I cultural resources survey was completed in early 2000 for the proposed routing from the step up transformer to the Moore Power Plant. The survey found low potential for the presence of significant cultural resources in the area, but recommended that a phase II survey (including test excavations) be conducted. This survey has yet to be completed. In any event, if any cultural resources are discovered during construction, work will be stopped and appropriate procedures will be followed.

The proposed tie-in site at the St. Clair Power Plant would cross previously disturbed land. Any cultural resources in the area would have been disturbed by previous activities. Nonetheless, a notification letter will be sent to the State Historic Preservation Officer.

5.8 AIR QUALITY AND NOISE

The closest Canadian air quality monitoring station to the proposed project area is located in Sarnia. Data available from that station indicates that air quality within the study area can be considered to be generally good. The following Canadian Ministry Of Environment and Energy air quality criteria were exceeded in Sarnia during the 1991 monitoring period: the one-hour criterion for sulphur dioxide (once over 361 days at one monitoring station); the one-hour criterion for ozone (98 times over 361 days at one station); and the 24-hour criterion for total suspended particulates (once in 224 samples) (ESG 1998).

The nearest ozone monitoring station in the U.S. is located in Port Huron, MI, approximately 14 miles NNE from the project location. The project area is within St. Clair County, MI, which has been found to be in violation of the 8-hour ozone standard and has been designated a nonattainment area for ozone. There are no designated nonattainment areas for any of the other EPA criteria pollutants (particulate matter, nitrogen dioxide, sulfur dioxide, carbon monoxide, lead, and 1-hour ozone) within the county.

Noise monitoring activities around the proposed location of the power plant indicate that the majority of the elevated noise levels at the closest receptor are resulting from road traffic during daytime hours. At night, common ambient noises dominate the noise landscape. These noises include the Ontario Hydro plant approximately 2.5 km to the north of the proposed site, power plants across the St. Clair river, intermittent vehicle traffic, light winds, and other miscellaneous background noises. The lowest equivalent sound level (Leq) measured at the nearest critical receptor was 48 dBA. The Leq measured during the proposed hours of operation of the power plant (between 6:00 am and 9:00 am) ranged from 55 to 63 dBA (Agra 1999).

There are no known data on noise levels in the area of the HDD workspace at the St. Clair Power Plant.

5.9 VISUAL RESOURCES

The proposed power plant site is currently used for agricultural production. There are no structures on the property. The site is bordered by the St. Clair Parkway to the west and Greenfield Road to the east. The north end of the property abuts a defunct ammonia manufacturing facility. The south end of the proposed site abuts vacant, undeveloped land. About 1.2 km south of the proposed site is the Terra International Chemical Plant.

The proposed power line tie-in site is located within the substation at the St. Clair Power Plant. The line would remain underground and would not be visible until reaching the tie-in site. There would be no change in the current visual character of the area.

ENRON CANADA CORP.

STATEMENT AND OPINION OF COUNSEL

The undersigned, being Vice President and Assistant General Counsel of Enron Canada Corp. (the "Company"), the Applicant for a Presidential Permit in the form to which this Statement and Opinion is attached, states and gives his opinion, pursuant to 10 CFR Section 205.322(A)(6) of the Regulations of the Office of Utility Systems of the Economic Regulatory Administration as follows:

(a) that he has examined and is familiar with the corporate powers of the Company, pursuant to the Company's Articles of Incorporation and By-Laws;
(b) that he has examined and is familiar with the contents of the Application to which this statement and opinion is attached;
(c) that in his opinion the construction, connection, operation and maintenance of the facility as proposed in said Application is within the corporate powers of the Company; and
(d) that, with respect thereto, the Company has complied or will comply with all pertinent federal and state laws.

GSJ

PETER C.M. KEOHANE
Vice President and Assistant
General Counsel

Enron Canada Corp.
3500 Canterra Tower
400 – 3rd Avenue S.W.
Calgary, Alberta T2P 4H2

March 12/01
Date